



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICANT: Boyce D. Burts, Jr.

ART UNIT NO.: 1743

FILED: April 22, 1999

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SERIAL NO.: 09/296,217 -

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TITLE: *Well Lost Circulation Treatment Fluid Made Therefrom, Method of Minimizing Lost Circulation in a Subterranean Formation*

Commissioner of Patents

BOARD OF PATENT APPEALS AND INTERFERENCES

Washington, D.C. 20231

Reply Brief Under 37 CFR 1.193(b)(1)

The Assistant Commissioner of Patents

BOARD OF PATENT APPEALS AND INTERFERENCES

Washington, DC 20231

Dear Sir:

This invention relates to conformance additives and conformance fluids (used with wells, such as oil wells).

The claims to a conformance additive (claims 1-10), and claims to a method of forming a conformance fluid (from a conformance additive) (claims 11-13), are patentable over the prior art because of the required "**dry mixture**" of the polymer, crosslinking agent and reinforcing material.

It is undisputed and even admitted by the Examiner that none of the references shows a dry mixture of all three components, instead, the reinforcing material is added to a solution of the polymer and crosslinking agent.

Specifically concerning Sydansk '673, the Examiner states, "Sydansk 673 differs from the instantly claimed invention in that Sydansk does not appear to teach a dry mixture of water-soluble crosslinkable polymer, crosslinking agent, and reinforcing material." Examiner's Answer at 5.

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Specifically concerning Merrill '760, the Examiner states, "Merrill '760 also discloses the use of reinforcing materials, which are incorporated into the gels" (i.e., gels are not "dry"), and further states, "[a]lso, Merrill '760 does not disclose the use of a dry mixture of components." Examiner's Answer at 6.

Specifically concerning House '553 and Horner '524, the Examiner states, "House et al. '553 and Horner et al '524 further differ from the instantly claimed invention in that there is no disclosure of the use of a dry mixture of components." Examiner's Answer at 8.

Specifically concerning Githens, the Examiner states, "Githens '979 teaches using a dry mixture of crosslinkable polymer, crosslinking agent, wherein water is added to the dry mixture followed by the addition of a reinforcing agent such as sand." Examiner's Answer at 11.

The consistent teachings of the prior art references Sydansk, Merrill, House, Horner and Githens is that a reinforcing material is added to a solution of the polymer and crosslinking agent.

How then, does the Examiner find that the prior art teaches a "dry mixture?" Answer, by merely stating that Githens is not so limited to adding the reinforcing material after adding the water. *See*, Examiner's Answer at 12 ("Appellant may be correct in pointing out that Githens '979 adds an inert solid to a gel (mixture of crosslinking composition, gelling agent and water); however, the teachings of Githens '979 are not limited to addition of inert solids after the addition of water.).

Very respectfully, the Examiner is challenged to find any passage in Githens where it is suggested to add the reinforcing material to the dry mixture of polymer and crosslinking agent prior to the addition of water.

When Githens is viewed in the context of the evolution of the art, it is very clear that Githens does not teach a dry mixture of all three components.

This art has been undergoing an evolution: (1) the early art taught sequential injection of the polymer components into the subterranean; (2) with an improvement being formation of a single aqueous gelation solution at the surface; and (3) with a further improvement being formation of a gel solution to which reinforcing materials are then added.

Now, in an even further evolution, (4) applicant teaches a "dry mixture" of all three of the components (i.e., polymer, crosslinking agent and reinforcing material).

Githens fits into number (3) of the evolution, that is, "formation of a gel solution

to which reinforcing materials are then added."

Githens issued in 1986. The Examiner has not cited a single post-Githens reference that discloses or teaches the addition of reinforcing material to a dry mixture of the polymer and crosslinking agent.

By contrast, in addition to the art cited by the Examiner (Sydansk '673, Merrill, House, Horner and Githens), applicant directs attention to other patents that teach the addition of reinforcing materials to a gelation solution.

U.S. Patent No. 4,683,949, issued August 4, 1987, "Inert fillers such as crushed or naturally fine rock material or glass beads can also be added to the gelation solution to reinforce the gel network structure" (col. 4, lines 58-60).

U.S. Patent No. 4,723,605, issued February 9, 1988, "Inert fillers such as crushed or naturally fine rock material or glass beads can also be added to the gelation solution to reinforce the gel network structure" (col. 6, lines 23-25).

U.S. Patent No. 4,744,419, issued May 17, 1988, "Inert fillers such as crushed or naturally fine rock material or glass beads can also be added to the gelation solution to reinforce the gel network structure" (col. 5, lines 33-35).

U.S. Patent No. 4,995,461, issued February 26, 1991, "The strength of the gel can be augmented at the practitioner's option by the addition of inert solids suspended or dispersed in the gel" (col. 7, lines 27-31).

In view of the above prompt allowance of all pending claims is respectfully requested.

If it would be of assistance in resolving any issues in this application, the Examiner or Board are kindly invited to contact applicants' attorney Mark Gilbreth or agent Mary Gilbreth at 713/227-1200.

Respectfully submitted,



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